

Claims

1. A method for dewatering of sludge wherein the sludge
 - is adjusted to a pumpable concentration by addition of water
 - is flushed through a pipeline to a dewatering field
 - is mixed with an aqueous solution of a polymeric flocculating agent while it is being transported
 - is sedimented in the dewatering field and partly freed of supernatant and/or drainage water and then subjected to natural evaporative drying**characterized in that** the flocculation is achieved with a water-soluble, anionic, polymeric flocculating agent.
2. A method according to claim 1, characterized in that the anionic polymeric flocculating agent is formed from anionic and nonionic monomers and acrylic acid, methacrylic acid, itaconic acid, maleic acid, fumaric acid, vinylsulfonic acid, acrylamidoalkanesulfonic acids, vinylphosphonic acid and/or their salts with alkalis, ammonia, (alkyl)amines or alkanolamines or mixtures of these monomers are used as the anionic monomers, and in that acrylamide, methacrylamide, acrylonitrile, hydroxyalkyl esters of acrylic and methacrylic acid, vinylpyrrolidone or vinylacetamide or mixtures of these monomers are used as the nonionic monomers.
3. A method according to claim 1 and 2, characterized in that a polyacrylamide formed from polymerized acrylamide and acrylic acid units is used as the polymeric flocculating agent.
4. A method according to claim 1 to 3, characterized in that the polymeric flocculating agent contains 1 to 40 wt% of integrally polymerized anionic monomer constituents.
5. A method according to claim 1 to 4, characterized in that the polymeric flocculating agents have a weight-average molecular weight M_w of higher than 1.0×10^7 .

6. A method according to claim 1 to 5, characterized in that at least two different anionic flocculating agents are used.
7. A method according to claim 1 to 6, characterized in that the polymeric flocculating agent is added in a proportion of 0.02 wt% to 2 wt% relative to the solids content of the sludge.
8. A method according to claim 1 to 7, characterized in that the polymeric flocculating agent is used in the form of an aqueous solution with a concentration of lower than 2 wt%.
9. A method according to claim 8, characterized in that the polymer solution is prepared from a powdery polymer.
10. A method according to claim 1 to 9, characterized in that the sludge to be treated was obtained from rivers, harbors, the sea floor or sandbanks.
11. A method according to claim 1 to 10, characterized in that the sludge to be dewatered contains at least 50 wt% of fine particles in the size range of 0.06 mm or smaller.
12. A method according to claim 1 to 11, characterized in that the sludge to be dewatered is adjusted to a density of 1.04 to 1.15 metric tons per m³ by addition of water.
13. A method according to claim 1 to 12, characterized in that the flocculating agent is metered into the pipeline over a section between the outlet to the dewatering field and 150 m ahead of the outlet.
14. A method according to claim 1 to 13, characterized in that a measuring device in the pipeline determines the sludge concentration, calculates the quantity of flocculating agent therefrom and initiates metering of the flocculating-agent solution.

15. A method according to claim 1 to 14, characterized in that the sludge treated with the flocculating agent has a density of 1.25 to 1.35 metric tons per m³ after dewatering and before natural evaporative drying.

16. A method according to claim 1 to 15, characterized in that the natural evaporative drying is accelerated by mechanically turning the sludge.

17. A method according to claim 16, characterized in that the mechanical turning is achieved by means of rotary hoes.

18. A method according to claim 1 to 17, characterized in that the evaporative drying of the sludge is continued to a density of at least 1.45 metric tons per m³.

19. A method according to claim 18, characterized in that the sludge has a vane shear strength of greater than 25 kN/m².

20. A method according to claim 1 to 19, characterized in that the dewatered and dried sludge is mixed with clays and/or slaked lime and/or cement in proportions of 1 to 15 wt% each.

21. Dewatered sludge according to one of claims 1 to 20.

22. The use of the dewatered sludge according to claim 1 to 21 as building material.